CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 86-34

WASTE DISCHARGE REQUIREMENTS
(SITE CLEANUP REQUIREMENTS) FOR:

GREAT WESTERN CHEMICAL COMPANY AND
STINNES-WESTERN CHEMICAL CORPORATION
MILPITAS
SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board) finds that:

1. Great Western Chemical Company, hereinafter called a discharger, operates and owns a chemical packaging and distribution facility at 945 Ames Avenue in the City of Milpitas located in Santa Clara County (Attachment 1). The previous property owner, Western Chemical and Manufacturing Company, bought the undeveloped land in 1969 and constructed a chemical repackaging facility on the property. Great Western purchased the facility from Western Chemical Company in December 1978.

2. Western Chemical Company was acquired by Stinnes-Western Chemical Corporation on February 5, 1980 pursuant to a stock purchase agreement. Stinnes-Western, hereinafter also called a discharger, is responsible for Western Chemical's past activities at the facility.

3. Both dischargers have operated a chemical packaging and distribution facility on the property which consisted of receiving, repackaging, distributing, and otherwise handling large volumes of organic solvent chemical products. Great Western continues to conduct these types of operations at the site.

4. At the request of Regional Board Staff, Great Western has been performing the technical work necessary to define the extent of organic solvents present in the groundwater on and off-site; the technical work completed has been sufficient for partial characterization of the extent of organic solvent migration.

5. Chemicals historically and currently stored on-site in eight 7500 gallon underground tanks include butyl cellosolve, acetone, methanol, ethylene glycol, and isopropanol. Since 1970 these tanks have also been used to store methyl ethyl ketone (MEK), cyclohexanone, and toluene (for six months in 1982). Chlorinated hydrocarbon solvents were stored in four above ground 6000 gallon tanks located directly adjacent to the underground tank farm location. These above ground tanks were removed, one tank in 1984 and the remaining three tanks in late 1985, by Great Western Chemical. A former employee of Western Chemical has reported to Stinnes-Western that Western Chemical stored a chlorinated solvent in one of the underground tanks for a one or two

month period in 1971 until the above ground tanks were available for use.

6. In response to the Board's May 1982 Underground Leak Detection Program Questionnaire, Great Western implemented an investigation in December 1982 to determine if solvent tanks or piping had leaked. Unknown quantities of organic solvents were detected in the soil and groundwater on-site. Additional on-site and off-site solvent plume characterization studies conducted by Great Western have shown that high concentrations of chlorinated solvents and toluene are present in the soil and groundwater near the underground and above ground tanks. Soil bore samples at the tank farm contained 11,000 ppb trichloroethene (TCE), 6,800 ppb 1,1,1-trichloroethane (TCA), 2,100 ppb tetrachloroethylene (PCE), and other organic solvents. Maximum concentrations detected in the shallow groundwater on-site include 67 ppm TCE, 53 ppm TCA, 25 ppm PCE, and other EPA priority pollutants. The solvent plume extends laterally more than 2250 feet northwest of the tank area and vertically for a depth less than 60 feet from the ground surface.

7. A source of organic solvents is present at the site. This conclusion is based on the organic solvent distribution found at the site. Chlorinated solvents handled at the site have been found in the soil 15 feet beneath the tank farm. Also, chlorinated solvent concentrations in the groundwater are found to increase a thousand-fold between the on-site upgradient and downgradient monitoring wells in the immediate tank farm vicinity.

8. Although the exact source or sources of the releases of organic solvents to the soil and groundwater has not been determined, both dischargers report that past chemical handling practices resulted in small releases of solvents to the environment from repackaging activities at the site during operation by both dischargers. Also, former employees of Western Chemical have declared that PCE from one of the above ground tanks was accidentally spilled onto the concrete tank pad beneath the above ground tanks and flowed to a concrete sump lacking double containment. All the solvents detected in the groundwater were handled by both dischargers on the site. Based on this finding and the other findings stated above, the Board finds that both Great Western and Stinnes-Western have discharged waste to waters of the State.

9. Beneath the site is alluvial material containing two aquifers. The upper aquifer is composed of a shallow zone of sand, silty sand and gravel between depths of 15 and 27 feet and an intermediate zone of smaller lenses of sand and gravel interspersed in silty clay and sandy clay at depths less than 50 feet. The second and deeper aquifer is between 85 to 100 feet in depth. The geologic boundary separating the intermediate zone of the upper aquifer from the deeper aquifer is approximately 35 feet of clayey sediments and appears to act as a confining layer. Potential uses of these aquifers include water supply for domestic use, industrial purposes, and agriculture.

10. Within a 1.5 mile radius of the site there are 22 water wells of which one is a deep City of Milpitas municipal well used only as a backup for surface water supplies. An unknown number of the wells are composite

wells which are able to draw water from more than one aquifer. The results of a survey of these wells indicate that no impact has occurred on the uses of the wells.

11. As of August 1985, a total of 16 monitoring wells, five on-site and eleven off-site, have been installed to characterize the extent of organic solvents in the groundwater. The wells penetrate only the upper aquifer with the exception of one well which penetrates the deep aquifer to a depth of 100 feet. The solvent plume has not yet been defined though the solvents seem to be restricted to the shallow and intermediate zone of the upper aquifer.

12. Great Western submitted a proposed groundwater investigation plan to the Regional Board staff on October 10, 1985. This plan has resulted in the construction of an additional eight monitoring wells to further define the lateral and vertical extent of organic solvents downgradient from the tank farm. The plan also includes an evalution of interim remedial action alternatives for on-site. Stinnes-Western has failed to submit an investigation report or any technical proposals based on available information.

13. The interim remedial action proposed by Great Western includes groundwater extraction on-site or directly adjacent to the site. Groundwater containing dissolved solvent would be extracted from two well clusters each containing a shallow and an intermediate depth well. The extracted groundwater will be treated on-site with subsequent discharge of effluent in a storm drain. Continued monitoring will be necessary to determine the effectiveness of cleanup measures and to evaluate the necessity of expansion of groundwater cleanup off-site.

14. At the request of the Regional Board staff, Great Western submitted a Report of Waste Discharge to the Board on January 9, 1986.

15. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on July 21, 1982. The Basin Plan contains water quality objectives and beneficial uses for South San Francisco Bay and contiguous surface and groundwaters.

16. The beneficial uses of the groundwaters are:

    municipal and domestic water supply
    industrial service and process water supply
    agricultural water supply

17. This project constitutes a minor modification to land and such activity is thereby exempt from the provisions of the California Environmental Quality Act (CEQA) in accordance with Section 15304 of the Resources Agency Guidelines.

18. The Board has notified both dischargers and interested agencies and persons of its intent to prescribe waste discharge requirements for characterizing the on and off-site solvent plume and for implementing remedial measures and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

19. The Board, in a public meeting, heard and considered all comments pertaining to the Waste Discharge Requirements.

IT IS HEREBY ORDERED, that the dischargers, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following:

A. Prohibitions

1. The discharge of wastes or hazardous materials in a manner which will degrade water quality or affect the beneficial uses of waters of the State is prohibited.

2. Further significant migration of pollutants through subsurface transport to waters of the State is prohibited.

3. Activities associated with the subsurface investigation and cleanup which will cause significant adverse migration of pollutants or adversely spread any pollutants from other sites is prohibited.

B. Specifications

1. The storage, handling, treatment, or disposal of polluted soil or groundwater shall not create a nuisance as defined in Section 13050(m) of the California Water Code.

2. The dischargers shall conduct monitoring activities as needed to define the local hydrogeological conditions, and the lateral and vertical extent of the soil and groundwater pollution in and contiguous to the zone of known pollution. Should monitoring results show evidence of plume migration, additional plume characterization shall be required.

C. Provisions

1. The dischargers shall submit to the Board technical reports on self-monitoring work performed according to a program approved by the Executive Officer.

2. All samples shall be analysed by State certified laboratories using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control records for Board review.

3. In order to comply with Prohibitions 1. and 2., the dischargers shall submit by October 6, 1986, a final report discussing results of implementation of plume definition activities.

4. In order to comply with Prohibition 2, the dischargers shall complete the following tasks and submit reports documenting compliance according to the following time schedule for each designated area. The task due dates are contingent upon the completion of plume definition.

	SITE VICINITY	REMAINING DOWNGRADIENT AREA
Evaluate interim remedial measures alternatives and recommend a plan for the Executive Officer's consideration.	Completed	January 6, 1987
Complete construction and implement and operate an interim remedial measure acceptable to the Executive Officer.	Nine weeks from access approval for adjacent site, but not past date of September 30, 1986.	July 7, 1987

5. In order to comply with Prohibition 1, the following information will be submitted by the dischargers in a report for Board consideration no later than September 7, 1988.

   a. An evaluation of final remedial measures and a recommendation on which additional measures if any should be implemented.

   b. An evaluation of the effectiveness of the interim cleanup measures.

   The evaluation of final remedial measures will include a projection of the cost, effectiveness, and benefits of each measure and will be based upon Subpart F of the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Part 300) and upon Section 25356.1 (c) of the California Health and Safety Code.

6. The dischargers shall permit the Board or its authorized representative, in accordance with Section 13267(c) of the California Water Code:

   a. Entry upon premises in which any organic solvent sources exist, or may potentially exist, or in which any required records are kept.

   b. Access to copy any records required to be kept under terms and conditions of this Order.

   c. Inspection of any monitoring equipment or methods required by this Order.

   d. Sampling of any groundwater or soil which is accessible, or may become accessible as part of any investigation or remedial action program, to the dischargers.

7. The dischargers shall maintain in good working order and operate, as efficiently as possible, any facility or control system installed to achieve compliance with the requirements of this Order.

8. The Board will review this Order periodically and may revise the requirements when necessary. Final remedial measures limits shall be established by Board action once compliance with Provisions C.2, C.3, C.4 and C.5 are achieved.

I, Roger B. James, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on May 21, 1986.

ROGER B. JAMES
Executive Officer